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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/189,043	11/09/1998	SCOTT M. ROCKLAGE	238/117	5059
21834	7590	04/08/2004	EXAMINER	
BECK AND TYSVER 2900 THOMAS AVENUE SOUTH SUITE 100 MINNEAPOLIS, MN 55419			HARTLEY, MICHAEL G	
			ART UNIT	PAPER NUMBER
			1616	

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/189,043	Applicant(s) ROCKLAGE ET AL.	
	Examiner Michael G. Hartley	Art Unit 1616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 31-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Response to Amendment***

The amendment filed 12/02/2003 has been entered. Claims 31-38 are pending herein.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 31-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, for the reasons set forth in the office action mailed 7/28/2003.

***Response to Arguments***

Applicant's arguments filed 12/2/2003 have been fully considered but they are not persuasive.

Applicant asserts that the pixel and voxel data in column 6, of parent '744, is inherently 2D and 3D, thus the claimed limitations are intended to provide a generic identification of this pixel and voxel data.

This is not found persuasive because the cited column does not show support for comparing both 3-D and 2-D data, but only determining the signal ratio for each pixel and voxel. Determining the signal ratio would not provide a showing that applicant envisioned the comparison and evaluation of data as now claimed, let alone the acquiring of temporally spaced 3D and 2D data for comparison and evaluation. Also, there is nothing to show the limitations of such an evaluation step wherein a physician evaluates a comparison of 2D and 3D data or the use of software for such a comparison and evaluation. Also, it is noted that the claim does not specifically state what the 3D and 2D data are compared to, thus, it was viewed that the 2D data was compared with the 3D data. However, there is no such specific comparison disclosed in the specification.

Applicant asserts that the display refers to the attending physician.

While this may be the case, there is nothing to show support that the temporally spaced 2D and 3D data is compared and evaluated to assess abnormalities.

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Also, applicant has failed to suggest wherein support is provided for the software as set forth in claim 33.

Applicant asserts that the time periods in the claims are encompassed by non-limiting time periods in the examples and specification.

This is not found persuasive because a broad range does not necessarily provide support smaller or more specific ranges, unless there is some description to show that applicant envisioned these specific smaller ranges at the time of filing. In the instant case, a collection time of "up to 12 hr" does not show support for "less than 15 seconds" or "greater than 60 milliseconds" as now claimed. There is nothing in the specification to show these specific time periods were envisioned at the time of filing.

Also, in claim 36, such sequences are not described for the method as set forth in claim 31. The broad recitation of "an MRI technique" does not provide support for any possible MRI technique which may be known. There is nothing to show that applicant envisioned a method wherein the collection, comparison and evaluation of 2-D and 3-D data is employed, or the specific sequences in claim 36 are to be employed. Further, in claims 37 and 38, the recitation of "single shot imaging procedure" was not described in the specification. There is nothing in the specification which describes such an imaging modality, in fact, the specification describes taking a series of temporally spaced images, but not with a single shot. Again, the broad recitation of an MRI technique does not show support for every variation thereof that may be possible, without some description that such variations were envisioned at the time of filing.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 31-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for the reasons set forth in the office action mailed 7/28/2003.

Applicant's arguments filed 12/2/2003 have been fully considered but they are not persuasive.

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Applicant asserts that the use of "OR" and "AND" is clear because either one type of both may be used for analysis.

This is not found persuasive since the claim states "comparing 3D and 2D data" which requires comparison of both, one to the other. For example, since there is nothing to which this data is compared to in the claim, thus, it must be read that the 3D data is compared to the 2D data. Therefore, since both must be compared to one another, the subsequent evaluation of either 2D or 3D is confusing. That is, it is unclear how comparison can be made (i.e., comparison requires at least two objects), while only a single object, 2D or 3D data is evaluated. The claim is confusing because it is unclear what the 2D and 3D data is compared with or evaluated with and the specification fails to clarify these steps, as these limitations are not set forth in the specification.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 37 and 38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 and 15 of U.S. Patent No. 5,190,744, for the reasons set forth in the office action mailed 7/28/2003.

Applicant asserts that the examiner has made a provisional rejection.

It is noted that this is not a provisional rejection as the double patenting rejection is based on a patent and not another US application. However, applicant's statement of filing a terminal disclaimer upon the indication of otherwise allowable claims is acknowledged.

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***Specification***

The specification fails to include a section under "Brief Description of the Drawings" as required to describe the figures filed with the application.

***Conclusion***

No claims are allowed at this time. However, the instant claims are free of the art of record. The prior art fails to teach or suggest method of detecting blood flow or angiographic abnormalities having the steps of imaging and acquiring, comparing and evaluating the 2-D and 3-D data as claimed in claim 31-36 or the methods of quantitatively evaluating blood flow abnormalities as set forth in claims 37-38.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

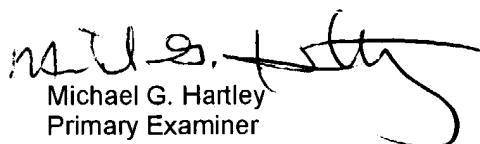
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael G. Hartley whose telephone number is (571) 272-0616. The examiner can normally be reached on M-F, 7:30-5, off alternative Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael G. Hartley  
Primary Examiner  
Art Unit 1616

4/5/2004